

**REMARKS**

Claims 27, 28, 30-37 and 42-46 are all the claims pending in the application. Claims 27 and 28 are allowed. Claims 30-37 and 42-46 are rejected. Claims 30, 33, 42 and 44-46 are amended. Claim 36 is cancelled.

**Support for Amendments**

The amendments to claims 30 and 42 include the explicit recital of the elements of a field-effect transistor, which are mentioned at page 10 of the specification.

Complementary amendments are made to dependent claims 44 to 46.

***Filing of RCE***

In the Advisory Action dated April 6, 2011, the Examiner states that “Applicant's amendment to the claims will not be entered because the amendment presents additional claims without canceling a corresponding number of claims, does not appear to rectify the examiner's previous 112 rejection and appears to further confuse the issues concerning the claimed invention (see the discussion below).

Accordingly, the accompanying RCE does NOT request entry of the previous amendment. Instead, the present Amendment under 37 CFR 1.114(c) is being filed in order to present claims that avoid the issues identified by the Examiner and follow the Examiner's kind suggestions for improving clarity. The amendments are being made to the claims that were pending at the time of the final Office Action. The amendments are intended to address the issues raised in the final Office Action as well as the issues identified in the Advisory Action.

In particular, the independent claims 30 and 42 are amended to specify first “forming the active semiconducting layer, gate dielectric layer and gate electrode over the source and drain

electrodes defined by the operation that also defines the microfluidic channel, as suggested in Section 2 of the Advisory Action (particularly the sentence bridging pages 2 and 3).

The modifications to claim 30 also include correction of the error identified by the Examiner at section 3 of the advisory action.

***Specification***

Applicant greatly appreciates the Examiner's withdrawal of the objection to the disclosure.

***Claim Rejections - 35 USC § 112***

**Claims 30-37 and 42-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.** This rejection is traversed for at least the following reasons.

In the final Office Action, the Examiner asserts that "claims 30 and 42 are incomplete because they set forth the defining of a microchannel and a pair of electrodes in a single operation and followed by a step of placing a flow of liquid or gas in said microchannel, but fails to set forth the essential steps that must occur between this single operation and the use of the device as a sensor with a flow channel."

The claims have been amended to recite plural steps, in a manner that would remove the basis for rejection as articulated by the Examiner.

***Claim Rejections - 35 USC § 102/§ 103***

**Claims 30-37, 42 and 43 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bhullar et al (USP 6,676,815) with evidence from White et al (USP 5,405,511).** This rejection is traversed for at least the following reasons.

First, with regard to claim 36, the rejection is moot in view of the cancellation of the claim.

Second, in framing the rejection, the Examiner comments that “Bhullar and White are being cited and relied on for the first time with this office action. Their use here was necessitated by applicant's amendment to claims 30 and 42.”

In the detailed explanation of the rejection, Applicant notes that the Examiner does not include a finding that the cited prior art teaches the use of the techniques described therein for forming the electrodes of a field-effect transistor; and Applicant could also not find any such teaching in the cited references.

Such feature is a limitation of the claimed subject matter and, on that basis, the invention is distinguishable over the prior art.

***Allowable Subject Matter***

Claims 27 and 28 are allowed. Applicants greatly appreciate the Examiner's indication of allowable subject matter.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)  
Appln. No.: 10/549,329

Attorney Docket No.: Q90316

Respectfully submitted,

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**23373**

CUSTOMER NUMBER

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